

## WHAT IS CLAIMED IS:

1. A colored sunscreen composition exhibiting both UV absorption and skin coloring properties, the colored sunscreen composition comprising a colored nanostructure, the colored nanostructure comprising a particulate sunblock agent in intimate relationship with a coloring agent or a colored polymeric nanomatrix and being reactive to skin or capable of being immobilized onto the skin.  
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2. A colored nanostructure comprising a particulate sunblock agent chemically attached to a coloring agent, and wherein the colored nanostructure is reactive to skin or capable of being immobilized onto the skin.  
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3. A colored nanostructure comprising a particulate sunblock agent in intimate relationship with a colored polymeric nanomatrix, wherein the colored polymeric nanomatrix comprises a coloring agent chemically attached to a polymeric nanomatrix, and wherein the colored nanostructure is reactive to skin or capable of being immobilized onto the skin.  
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4. A colored nanostructure according to claim 3 wherein the particulate sunblock agent is chemically attached to the colored polymeric nanomatrix.  
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5. A colored nanostructure according to claim 3 wherein the colored polymeric nanomatrix comprises a particulate polymeric nanomatrix.
6. A colored nanostructure according to claim 5 wherein the particulate polymeric nanomatrix is a protein or a protein derivative.  
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7. A colored nanostructure according to claim 6 wherein the protein or protein derivative is further grafted with silicone.
8. A colored nanostructure according to claim 3 wherein the colored polymeric nanomatrix comprises a non-particulate polymeric nanomatrix.  
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9. A colored nanostructure according to claim 8 wherein the non-particulate polymeric nanomatrix is selected from the group consisting of a linear polymer, a graft copolymer, a comb

polymer, a branched polymer, a highly branched polymer, a star polymer, a dendrimer, and a lightly crosslinked polymer network.

10. A colored nanostructure according to claim 3 wherein the colored polymeric nanomatrix  
5 comprises silicone.

11. A colored nanostructure according to claim 3 wherein the colored polymeric nanomatrix  
comprises amphiphilic block copolymers.

10 12. A colored nanostructure according to claim 3 wherein the colored polymeric nanomatrix  
is in the form of a nanoscopic polymer network.

13. A colored nanostructure according to claim 3 wherein the colored polymeric nanomatrix  
is in the form of a polymer nanosphere.

15 14. A colored nanostructure according to claim 3 wherein the coloring agent comprises  
melanin.

20 15. A colored nanostructure according to claim 3 wherein the composition further  
comprises an organic UV absorber chemically attached to the particulate sunblock agent or to  
the colored polymeric nanomatrix.

16. A colored nanostructure according to claim 3 which comprises skin-reactive functional  
groups.

25 17. A colored nanostructure according to claim 3 which comprises a polymer exhibiting  
UCST or LCST behavior in a physiologically acceptable aqueous solution.

30 18. A colored nanostructure according to claim 3 which comprises functional groups that  
will react with a mordant.

19. A colored nanostructure according to claim 3 which comprises functional groups that  
will react with a cationic fixing agent.

20. A colored nanostructure according to claim 3 which comprises functional groups that will react with an anionic fixing agent.

21. A colored nanostructure according to claim 3 which comprises functional groups that 5 will react with a fixing agent that relies on hydrophobic interactions or on hydrogen bonding.

22. A method of treating skin to provide improved retention of sunblock and coloring agents on the skin, the method comprising:

10 applying a colored sunscreen composition to the skin under a first set of conditions, the colored sunscreen composition comprising a colored nanostructure, the colored nanostructure comprising a particulate sunblock agent in intimate relationship with a coloring agent or a colored polymeric nanomatrix and being reactive to skin or capable of being immobilized onto the skin; and

15 changing the conditions to a second set of conditions such that the colored nanostructure is attached to or immobilized onto the skin.